CASE WESTERN RESERVE UNIVERSITY EST. 1826

Department of Epidemiology and Biostatistics
Biostatistics Seminar

Thursday, March 20, 2014
12 -1pm -- WG73

"The association of initial disease-free interval from patients with recurrent head and neck cancer on overall survival"

Pingfu Fu, Associate Professor of Biostatistics
Department of Epidemiology and Biostatistics, CWRU

Abstract: Radiation therapy has become the primary treatment modality for cancer of the pharynx and larynx in many institutions in the United States. In patients with recurrent head and neck cancer that have failed radiation with or without chemotherapy, salvage surgery is the preferred treatment modality for curative intent. Salvage surgery in the post radiation setting is a significant undertaking frequently requiring major ablative and reconstructive efforts. We hypothesize the initial-disease free interval is positively associated with the overall survival after salvage surgery. In this study, data from 73 consecutive head and neck cancer patients from 2006-2012 were collected; due to the censoring, the estimation and inference of the correlation are based on involved methods developed recently, namely, a semi-parametric normal copula-based approach, in particular Spearman correlation coefficient, as the dependence of such times is assumed monotonic, is used. The correlation of the two times with censoring, $r_s = 0.25$ (95% CI: 0.02 – 0.46, p = 0.03), shows that there was a moderate positive association between the initial disease-free interval and overall survival after salvage surgery. Simulation studies are currently under way to investigate the effect of the choice of copulas on the estimation of the correlation. The predictive value of the initial disease-free interval on overall survival was also estimated using traditional survival data analysis techniques.